AMENDMENTS TO THE CLAIMS

Please amend claims 1, 3-7 and 9-11.

Please add claims 12-16.

1. (currently amended) A method of manufacturing a semiconductor device, comprising the steps of:

(a) ~~providing a semiconductor substrate in which a floating gate electrode is formed~~;

(a) forming a tunnel oxide film on the semiconductor substrate;

(b) sequentially forming a first polysilicon film and a pad nitride film on the tunnel oxide film;

(c) etching the pad nitride film, the first polysilicon film, the tunnel oxide film and the semiconductor substrate with a patterning process to form a trench in the semiconductor substrate;

(d) depositing an oxide film on the entire structure including the trench and then planarizing the oxide film with the pad nitride film until the pad nitride film is exposed;

(e) removing the pad nitride film and then depositing a second polysilicon film on the entire structure;

(f) patterning the second polysilicon film to form the floating gate electrode;

~~(b)~~(g) nitrifying ~~the~~ a top surface of the floating gate electrode;

~~(c)~~(h) forming a dielectric film ~~along the step of the results~~ on the entire structure including the floating gate; and

~~(d)~~(i) forming a material film for a control gate electrode on the dielectric film,

wherein the step of nitrifying the tope of the floating gate electrode and the step of forming the dielectric film are ~~implemented~~ performed in-situ within the same chamber.

2. (original) The method as claimed in claim 1, wherein the dielectric film has an ONO structure on which a first oxide film, a nitride film and a second oxide film are sequentially stacked.

3. (currently amended) The method as claimed in claim 1, wherein the steps (~~b~~ g) and (~~c~~ h) that are performed in-situ ~~implemented~~ within the same chamber ~~and~~ comprises ~~the steps of~~:

(g)(1) introducing a N_2O gas flow of 100 ~ 10000 sccm at a temperature of 800 ~ 950°C to nitrify the top of the floating gate electrode;

(h)(1) introducing N_2O gas and DCS (~~SiH_2CL_2~~ SiH_2Cl_2) gas ~~under~~ at a pressure of 0.1 ~ 3torr and at a temperature of 790 ~ 830°C to form a first oxide film ~~along the step~~ on the entire structure;

(h)(2) introducing DCS gas and NH_3 gas ~~under~~ at a pressure of 0.1 ~ 3torr and at a temperature of 650 ~ 800°C to form a nitride film on the first oxide film; and

(h)(3) introducing N_2O gas and DCS(~~SiH_2CL_2~~ SiH_2Cl_2) gas ~~under~~ at a pressure of 0.1 ~ 3torr and at a temperature of 790 ~ 830°C to form a second oxide film on the nitride film.

4. (currently amended) The method as claimed in claim ~~2~~ 3, wherein ~~the~~ a ratio of DCS (~~SiH_2CL_2~~ SiH_2Cl_2) gas and N_2O gas is in the range of 1:5 ~ 1:10.

5. (currently amended) ~~The method as claimed in claim 1, wherein formation of the floating gate electrode is accomplished by the steps of:~~

~~sequentially forming a tunnel oxide film, a first polysilicon film and a pad nitride film on the semiconductor substrate;~~

~~etching a part of the pad nitride film, the first polysilicon film, the tunnel oxide film and the semiconductor substrate through a patterning process to form a trench within the semiconductor substrate;~~

~~depositing an oxide film on the entire structure including the trench and then making smooth the oxide film so that the pad nitride film is exposed;~~

~~etching the pad nitride film and then depositing a second polysilicon film on the entire structure; and~~

~~patterning the second polysilicon film to form the floating gate electrode~~

The method as claimed in claim 1, further comprising, between the steps (c)(a) and (d)(b), the step of implementing an annealing process using N_2 at a temperature of 900 ~ 910°C for 20 ~ 30 minutes.

6. (currently amended)The method as claimed in claim 1, further comprising, between the steps ~~(c)~~(g) and ~~(d)~~(h), ~~the~~ a step of implementing a steam anneal process of a wet oxidization mode at a temperature of 750 ~ 800°C so that the thickness of the dielectric film ~~becomes~~ is in the range of 150 ~ 300Å.

7. (currently amended) ~~A method of manufacturing a semiconductor device, comprising the steps of~~ The method as claimed in claim 1, wherein the steps (g) and (h) that are performed in-situ and within the same chamber and comprise:

~~(a)~~(g1) loading a semiconductor substrate in which a floating gate electrode is formed into a deposition chamber;

~~(b)~~(g2) changing the temperature within the deposition chamber to a first deposition temperature;

~~(c)~~(g3) nitrifying the top surface of the floating gate electrode at the first deposition temperature;

~~(d)~~(h1) changing the temperature within the deposition chamber to a second deposition temperature range;

~~(e)~~(h2) forming a dielectric film ~~along the step in~~ on the entire structure at the second deposition temperature range ~~to form a dielectric film~~; and

~~(f)~~(h3) unloading the semiconductor substrate from the deposition chamber.

8. (original) The method as claimed in claim 7, wherein the first deposition temperature is 800 ~ 950°C and the second deposition temperature range is 650 ~ 830°C

9. (currently amended) The method as claimed in claim 7, wherein the step (c)(g3) comprises introducing N_2O gas into the deposition chamber to nitrify the top surface of the floating gate electrode.

10. (currently amended) The method as claimed in claim 7, wherein the step ~~(e)~~(h2) comprises the steps of:

introducing N_2O gas and DCS (~~SiH_2CL_2~~ SiH_2Cl_2) gas into the deposition chamber to form ~~the~~ a first oxide film;

introducing NH_3 gas and DCS (~~SiH_2CL_2~~ SiH_2Cl_2) gas into the deposition chamber to form ~~the~~ a nitride film on the first oxide film; and

introducing N_2O gas and DCS (~~SiH_2CL_2~~ SiH_2Cl_2) gas into the deposition chamber to form ~~the~~ a second oxide film on the nitride film.

11. (currently amended) The method as claimed in claim 10, wherein the ratio of DCS (SiH_2CL_2 SiH_2Cl_2) gas and N_2O gas is in the range of 1:5.about.1:10.

12. (new) A method of manufacturing a semiconductor device, comprising the steps of:

(a) forming a tunnel oxide film on the semiconductor substrate;

(b) implementing an annealing process so that a defect density at an interface between the tunnel oxide film and the semiconductor device is minimized;

(c) forming a floating gate electrode on the tunnel oxide film;

(d) nitrifying a top surface of the floating gate electrode;

(e) forming a dielectric film on the entire structure including the floating gate electrode; and

(f) forming a material film for a control gate electrode on the dielectric film,

wherein the nitrifying of the top surface of the floating gate electrode and the forming of the dielectric film are performed in-situ and within the same chamber.

13. (new) The method as claimed in claim 12, wherein the annealing process is perfomed in a N_2 atmosphere at a temperature of 900 ~ 910°C for 20 ~ 30 minutes.

14. (new) The method as claimed in claim 12, wherein the dielectric film has an ONO structure on which a first oxide film, a nitride film and a second oxide film are sequentially stacked.

15. (new) The method as claimed in claim 12, wherein the steps (d) and (e) that are performed in-situ within the same chamber and comprises:

introducing a N_2O gas flow of 100 ~ 10000 sccm at a temperature of 800 ~ 950°C to nitrify the top of the floating gate electrode;

introducing N_2O gas and DCS (SiH_2Cl_2) gas at a pressure of 0.1 ~ 3torr and at a temperature of 790 ~ 830°C to form a first oxide film on the entire structure including the floating gate;

introducing DCS gas and NH_3 gas at a pressure of 0.1 ~ 3torr and at a temperature of 650 ~ 800°C to form a nitride film on the first oxide film; and

introducing N_2O gas and DCS (SiH_2Cl_2) gas at a pressure of 0.1 ~ 3torr and at a temperature of 790 ~ 830°C to form a second oxide film on the nitride film.

16. (new) The method as claimed in claim 15, wherein the ratio of DCS (SiH_2Cl_2) gas and N_2O gas is in the range of 1:5 ~ 1:10.